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AMSAT NEWS SERVICE
ANS-073

The AMSAT News Service bulletins are a free, weekly news and information service of AMSAT, The Radio Amateur Satellite Corporation. ANS publishes news related to Amateur Radio in Space including reports on the activities of a worldwide group of Amateur Radio operators who share an active interest in designing, building, launching and communicating through analog and digital Amateur Radio satellites.

The news feed on http://www.amsat.org publishes news of Amateur Radio in Space as soon as our volunteers can post it.

Please send any amateur satellite news or reports to: ans-editor(a)amsat.org

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In this edition:

* Spacewalk Addresses ARISS Equipment Issue
* Eight Amateur Radio Satellites to Deploy From ISS On March 14
* Delfi-N3xt Back To Life After 7 Years Of Silence
* First Contact Via UVSQ-Sat FM Transponder
* Another Achievement For Explorer Richard Garriott
* Renewal of Orbital Data Request for TLE Redistribution by AMSAT
* News Conference Details ARISS Efforts
* ARISS News
* Upcoming Satellite Operations
* Hamfests, Conventions, Maker Faires, and Other Events
* Satellite Shorts From All Over

ANS-073 AMSAT News Service Weekly Bulletins

AMSAT News Service Bulletin 073.01
To: All RADIO AMATEURS
From: Radio Amateur Satellite Corporation
712 H Street NE Suite 1653
Washington, DC 20002

DATE 2021 Mar 14

Spacewalk Addresses ARISS Equipment Issue

International Space Station Expedition 64 U.S. Spacewalk #73 to Continue Station Upgrades took place on Saturday, March 13 beginning at approximately 12:30z. Astronaunts Victor Glover, KI5BKC, and Mike Hopkins, KF5LJG, undertook a number of tasks left incomplete when a previous spacewalk had to be terminated early.

One of those tasks was a re-connection of four cables on the Bartolomao platform which is attached to the Columbus Module of the space station. Columbus is the home of the primary ARISS amateur radio station, which is used for school contacts and other ARISS activities.

After an extended effort to complete some cable connections on the Bartolomao platform, Hopkins moved on to the ARISS VHF/UHF antenna on the "Earth side" of the Columbus Module at approximately 18:15z, roughly five hours into the spacewalk, and successfully removed a jumper cable between Columbus and the antenna. Hopkins raised a question concerning a sharp bend in the cable near the connector. However, no adjustments were possible.

Because NASA safety protocols require the ARISS radios to be powered down during spacewalks, there will be no opportunity to check the success of the cable re-configurations until Sunday, March 14. The Columbus Module ARISS radios are expected to be powered up in the VHF packet mode at about 12:00z on that day.

[ANS thanks NASA TV and Frank Bauer, KA3HDO, ARISS Chair, for the above information]

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fulfilling its main mission objectives and achieving mission success. Unfortunately, in February 2014 contact with the satellite was lost after an experiment with the linear transponder. The satellite was not heard since and was considered silent.

Three weeks ago, on February 9th, an automatic email notification was received from the satellite's ground station, indicating that a signal from the Delfi-n3Xt had been picked up. “I always considered the possibility that the satellite might still be working but just not transmitting for some unknown reason. I programmed the ground station software such that it would still continue to track Delfi-n3Xt every single day and send me an email notification if it ever would come back to life,” says Nils von Storch, student and operator on the project in 2013 and technical responsible at the ground station since. Carrying out relevant checks and analysing the received telemetry frames prove the satellite is transmitting again.

The cause of the sudden silence has never been determined, and now the big question is how Delfi-n3Xt could come ‘back to life.' There are hypotheses: the software might have caused the problem and a bit may have ‘flipped’ recently. This can occur when charged high energy particles hit electronic components in space. Or perhaps a component caused a short circuit, and after being exposed to the extreme conditions in space for years it may have broken off. “Of course, in the past we have looked for all kinds of explanations, and we also had theories about how the contact could ever come back. But after so long, I hadn't counted on it anymore. Whether we will ever find out exactly how it happened, I doubt it,” says Jasper Bouwmeester, project manager of the mission since 2007.

Bouwmeester is confident that the satellite can still be of use to science. “We can learn how the satellite and its technologies and systems have held up after seven years in space. Testing systems such as the propulsion system, is relevant too, and using the Delfi-n3Xt for educational purposes is another possibility.” Before any research can be carried out, a number of steps have to be taken. A lot depends on whether the satellite can still be controlled. Also, the ground station at the EEMCS faculty is temporarily inaccessible and some of the software from 2014 no longer works on modern computers. At the same time, a formal process is necessary, as permits and insurance have expired. "But I am sure that we will be able to find solutions," says Stefano Speretta, managing operations. "If we don't lose the signal again, there are interesting times ahead."

[ANS thanks Delft University of Technology for the above information]

First Contact Via UVSQ-Sat FM Transponder

The first contact was made via the FM transponder on the UVSQ-Sat CubeSat on Friday, March 5, 2021.

Michel Mahé, F4DEY, of the F6KRK radio club carried out the transponder test from the Latmos ground station near Paris. The first contact was with Peter Goodhall, 2M0SQL, in Elgin, Scotland.

After the contact Michel tweeted "Very happy to have been able to operate the Latmos station and do #F6KRKR/P validate the transponder #UVSQSat "on #space" after validation of the satellite at the Lab of #Latmos in October 2020!"

Peter tweeted "Fantastic to be QSO #1 on UVSQ-SATs FM transponder wish the @uvsqsat good luck in their commissioning and it being available more often :)"

UVSQ-Sat
http://uvsq-sat.projet.latmos.ipsl.fr/?ong=Ham-Radio
https://twitter.com/uvsqsat

Michel Mahé F4DEY https://twitter.com/F4DEY_78

Peter Goodhall 2M0SQL
https://www.2m0sql.com/
https://twitter.com/2m0sql

As part of the ham radio mission, the UVSQ-SAT one-unit CubeSat embeds a radio transponder which will be accessible to the community in parallel of the other scientific objectives according to the power budget. The UVSQ-SAT team will provide an availability of the transponder up to 20% (schedule 7 to 15 days in advance with a distribution via the project's website and / or Twitter account).

[ANS thanks AMSAT-UK and LATMOS for the above information]

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AMSAT's GOLF Program is about getting back to higher orbits, and it all begins with GOLF-TEE – a technology demonstrator for deployable solar panels, propulsion, and attitude control. Come along for the ride. The journey will be worth it!

https://tinyurl.com/ANS-GOLF

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conducted. Bauer said the ARISS team has been working closely with NASA and the ESA to identify what may have caused the "radio anomaly" keeping the ISS Columbus module ham station off the air. He thanked ARISS-Russia's Sergey Samburov, RV3DR, for allowing ARISS to use the ham station in the service module to continue its contact schedule.

This past week, astronauts on the ISS performed troubleshooting tests on all four new feed lines installed on the Columbus module. One cable was earmarked for the ARISS station, while the other three are for Bartolomeo. ARISS reported over the weekend, however, that it was unable to establish communication using any of the feed line cables connected to the ARISS radio system, which was tested in APRS mode.

The plan to return the ARISS cabling to its original configuration was a "contingency task" for a March 5 spacewalk, but the astronauts ran out of time.

ARISS became aware of the station problem after a contact with a school in Wyoming, between ON4ISS on Earth and Hopkins at NA1SS, had to abort when no downlink signal was heard. For the time being, ARISS school and group contacts with crew members have been conducted using the ham station in the ISS service module.

A recording of the news conference is available for viewing on YouTube at: https://www.youtube.com/watch?v=7hm4h4rBE9k

[ANS thanks ARRL and Dave Jordan, AA4KN, ARISS operation team member, for the above information]

ARISS NEWS

Amateurs and others around the world may listen in on contacts between amateurs operating in schools and allowing students to interact with astronauts and cosmonauts aboard the International Space Station. The downlink frequency on which to listen is 145.800 MHz worldwide.

A contact with Goodwood Primary School, Adelaide, South Australia, Australia, is scheduled for Wed 2021-03-17 08:32:31 UTC. The scheduled astronaut is Victor Glover KI5BKC, using the space station callsign of NA1SS. This will be a telebridge contact via NA7V, so it will be heard over North America. Maximum elelvation will be 33 degrees. The latest information on the operation mode can be found at https://www.ariss.org/current-status-of-iss-stations.html

[ANS thanks Charlie Sufana, AJ9N, ARISS operation team member, for the above information]

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can’t keep this page updated with all of them.****

EN55/EN56: KC9BKA Hoping to hit up the EN55/56 grid line on Friday, March 19 for mid day passes. I haven’t checked the pass lineup yet. Would anyone need EN55/56

@AK7DD and Ledger: We will be headed to DN41 on the 14th of March. My plan is to hit DN30 on the way up. Our plans are to be in the area there until around the 24th of March, and we will hit a few of our normal activation grids on the way home, DN30, DM39 & DM49, etc. Anyhow, once we have landed in DN41, we will be doing a handful of roves in Utah and Idaho as time allows.

EL58: W7LT: EL58 happening April 1 … more to come. And then thinking Maine for the first weekend in April. Taking requests …

EM68/68: WB9VPG: Upcoming trip to EM67/68 and 58/68 possible on Wednesday, March 17. I’ll post more when I know more.

FN44: N1AIA I plan to operate from FN44 Thu 11 March 1400-1500z. SO-50, maybe AO-27, RS-44

Major Roves:

CM93 Possibility: N6DNM Very long shot, but might want to put it on your calendar for May 15th, if you can figure out where it is and for #SOTA folks, that would be W6/SC-336, Santa Rosa Island, activated only once before.

Please submit any additions or corrections to Ke0pbr (at) gmail.com

[ANS thanks Paul Overn, KE0PBR, AMSAT rover page manager, for the above information]

Hamfests, Conventions, Maker Faires, and Other Events

AMSAT Ambassadors provide presentations, demonstrate communicating through amateur satellites, and host information tables at club meetings, hamfests, conventions, maker faires, and other events.

One of the AMSAT Ambassadors, and an ARRL registered instructor, is Clint Bradford, K6LCS. Clint has the following presentations scheduled, with more on the way:
03/16 – Palm Springs, CA
03/20 – Bonham, Texas
04/01 – Orem, Utah
06/15 – East Massachusetts
If a 90-minute lively, informative, and fun “How to Work the Easy Satellites” Zoom presentation would be appropriate for your convention or club, contact Clint, or one of the other Ambassadors:
Clint Bradford K6LCS
http://www.work-sat.com
909-999-SATS (7287)

[ANS thanks Paul Overn, KE0PBR, AMSAT Events page manager, for the above information]

Satellite Shorts From All Over

+ If you enjoy seeing things blow up (and who doesn't like good fireworks?)

there is a glorious slow-motion video of the "Rapid Unplanned Disassembly" of the SpaceX SN10 test flight at: https://www.youtube.com/watch?v=gIZOcsu8tWk&t=120s The explosion, which occurred after what appeared to be a successful landing, was probably caused by malfunctioning landing legs on the rocket. But fear not, SpaceX already has SN11 on the pad for another attempt. If at first you don't succeed.... (ANS thanks The Orbital Index for the above information).

+ Continuing a high-tempo launch cadence, a SpaceX Falcon 9 launched a new set of Starlink satellites and landed the booster March 11. The launch brings the total number of Starlink satellites launched to 1,265, although more than 60 of them have since deorbited. In a Feb. 22 filing with the Federal Communications Commission, SpaceX requested to modify its FCC license, allowing it to move satellites into lower orbits. Several other satellite operators oppose the request, primarily on concerns that the modified constellation will interfere with their systems. The FCC has not indicated when it will rule on SpaceX’s request. (ANS thanks SpaceNews.com and SpaceflightNow.com for the above information)

+ NASA has assigned astronaut Mark Vande Hei, KG5GNP, to an upcoming mission to the International Space Station as a flight engineer and member of the Expedition 64/65 crew. Vande Hei, along with cosmonauts Oleg Novitskiy and Pyotr Dubrov of the Russian space agency Roscosmos, are scheduled to launch Friday, April 9, on the Soyuz MS-18 spacecraft from the Baikonur Cosmodrome in Kazakhstan. They will be joined on the ISS by astronauts Shane Kimbrough, KE5HOD, Megan McArthur, Akihiko Hoshide, KE5DNI, and Thomas Pesquet, KG5FYG, who will arrive on the SpaceX Crew Dragon “Endeavour” spacecraft now scheduled for launch on April 22. (ANS thanks NASA for the above information)

+ NASA’s Hubble Space Telescope resumed observations March 11 after a software error placed it in a protective safe mode several days earlier, but the incident is a reminder of the telescope’s mortality. The spacecraft was launched in April 1990 and serviced by the space shuttle five times, most recently in May 2009. With the shuttle long since retired, astronomers know that, at some point, Hubble will suffer an unrecoverable failure that will end its historic mission. (ANS thanks SpaceNews.com for the above information)

+ Three residents of the International Space Station will take a spin around their orbital neighborhood in the Soyuz MS-17 on Friday, March 19, relocating the spacecraft to prepare for the arrival of the next set of crew members. Live coverage on NASA Television, the NASA app, and the agency’s website will begin at 16:15 UTC. Expedition 64 Flight Engineer Kate Rubins of NASA and Commander Sergey Ryzhikov and Sergey Kud-Sverchkov, both of the Russian Space Agency Roscosmos, will undock from the Earth-facing port of the station’s Rassvet module at 16:38z and dock again at the space-facing Poisk docking port at 17:07z (ANS thanks NASA for the above information)

+ The largest asteroid predicted to pass by our planet in 2021 will be at its closest on March 21, providing astronomers a rare opportunity to get a good look at a rocky relic that formed at the dawn of our solar system. Called 2001 FO32, the near-Earth asteroid will make its closest approach at a distance of about 1.25 million miles (2 million kilometers) - or 5 1/4 times the distance from Earth to the Moon. There is no threat of a collision with our planet, even though that distance is "close" in astronomical terms. (ANS thanks Space Daily for the above information)

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In addition to regular membership, AMSAT offers membership in the President's Club. Members of the President's Club, as sustaining donors to AMSAT Project Funds, will be eligible to receive additional benefits. Application forms are available from the AMSAT Store.

Primary and secondary school students are eligible for membership at one-half the standard yearly rate. Post-secondary school students enrolled in at least half time status shall be eligible for the student rate for a maximum of 6 post-secondary years in this status. Contact info [at] amsat.org for additional student membership information.

73 and Remember to help keep amateur radio in space,
This week's ANS Editor, Mark Johns, K0JM
k0jm at amsat dot org